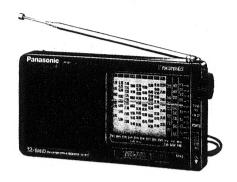
FM-LW-MW-SW 1~9 12-Band Receiver

RF-B11

Colour

(K): Black



Areas

Suffix for Model No.	Area	Colour
(PP)	U.S.A. and Canada	
(E)	Europe	(12)
(GC)	Asia, Latin America, Middle East and Africa	(K)
(GN)	Oceania	

Specifications

Frequency Range:		Sensitivity:	
FM	(PP)(GC)(GN)88.0 - 108.0 MHz	FM	8.9 μ V/ 5 mW SP output (30 dB)
	(E)87.5 - 108.0 MHz	MW	501 μ V/m/ 5 mW SP output (20 dB)
MW	(PP)(E)(GN)520 - 1610 kHz	LW	1000 μ V/m/ 5 mW SP output (20 dB)
	(GC)530 - 1605 kHz	SW1	12.5 μ V/ 5 mW SP output (20 dB)
LW	(PP)(E)(GN)148.5 - 285 kHz	SW2	11.2 μ V/ 5 mW SP output (20 dB)
	(GC)150 - 285 kHz	SW3	11.2 μ V/ 5 mW SP output (20 dB)
SW1 (60 m)	4.75 – 5.06 MHz	SW4	8.9 μ V/ 5 mW SP output (20 dB)
SW2 (49 m)	5.95 - 6.20 MHz	SW5	6.3 μ V/ 5 mW SP output (20 dB)
SW3 (41 m)	7.10 – 7.30 MHz	SW6	12.5 μ V/ 5 mW SP output (20 dB)
SW4 (31 m)	9.50 – 9.90 MHz	SW7	$8.9 \mu V/5 \text{ mW SP output (20 dB)}$
SW5 (25 m)	11.65 - 12.05 MHz	SW8	7.0 μ V/ 5 mW SP output (20 dB)
SW6 (22 m)	13.60 – 13.80 MHz	SW9	7.0 μ V/ 5 mW SP output (20 dB)
SW7 (19 m)	15.10 – 15.60 MHz	Power Requirement:	
SW8 (16 m)	17.55 – 17.90 MHz	Battery	DC 3 V (two "AA" size, R6/LR6, UM-3
SW9 (13 m)	21.45 – 21.75 MHz		batteries)
Intermediate Frequen	cy:	AC	DC IN 3 V with optional Panasonic AC
FM	10.7 MHz		adaptor (RP-AC31)
AM (LW/MW/SW)	460 kHz	Speaker:	8 cm PM dynamic speaker, 4Ω
The state of the s	A COLD IN	Output Power:	300 mW (RMSmax.)
	本のため	Output Jack:	PHONES; Ø 3.5, 16 Ω
11-2	September 1	Dimensions:	174 (W) \times 92 (H) \times 33 (D) mm
19go-onesta e	policional	Weight:	300 g (without batteries)
I. E.	UL PE ME		

Notes:

- 1. Weight and dimensions shown are approximate.
- 2. Design and specifications are subject to change without notice.

∆WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.

Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

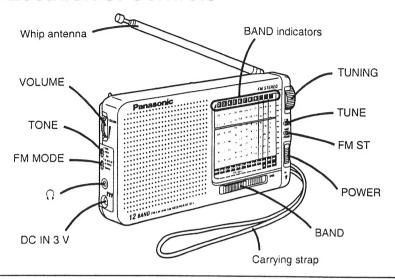


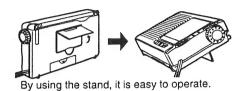
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Operation Check and		Replacement Parts List
Main Component Replacement Procedures	2 ~ 5	Cabinet Parts Location
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		Pag	3
Measurements and Adjustments		8, 9)
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Location of Controls





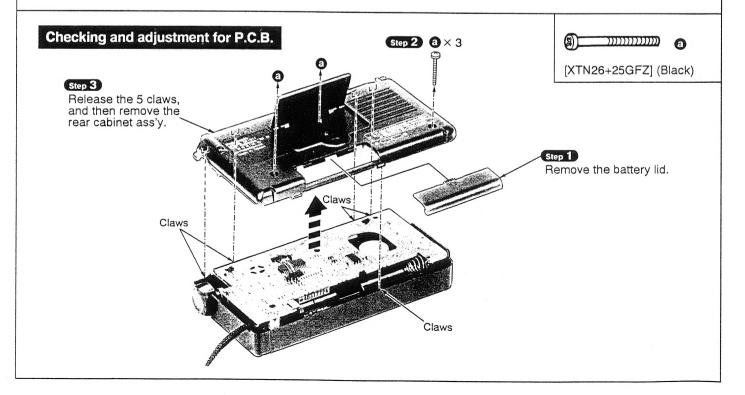
BATTERY SERVICE LIFE AA-size (UM-3) Batteries

Approx. 30 hours of FM mode (EIAJ) Approx. 32 hours of AM mode (EIAJ)

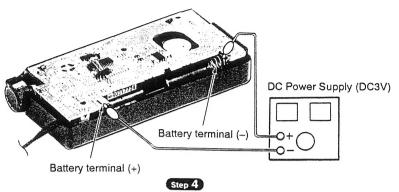
The above battery service life is measured according to the conditions set forth by EIAJ (Electronic Industries Association of Japan). As the battery service life varies with the method of operation and environmental conditions, use these values as reference.

Operation Check and Main Component Replacement Procedures

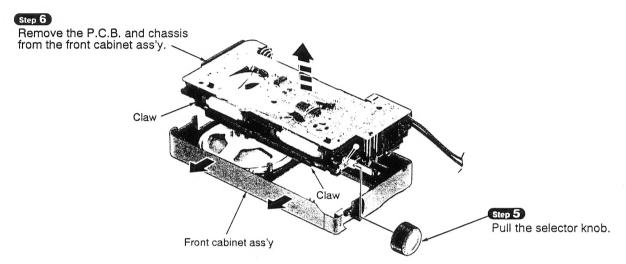
- NOTE 1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
 - 2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.
 - 3. Illustrated screws are equivalent to actual size.
 - 4. Refer the parts No. on the page of "Main Component Replacement Procedures", if necessary.



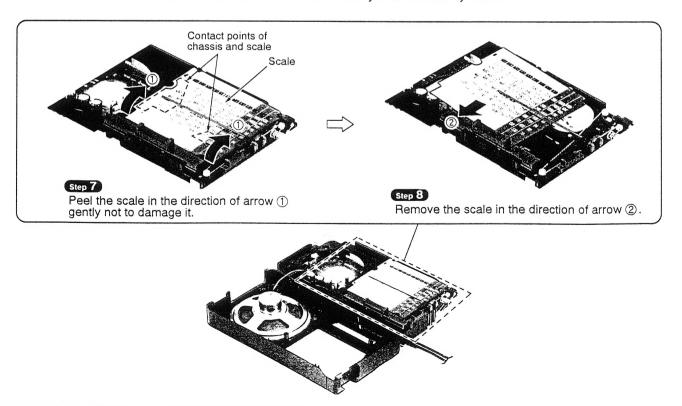
· Check the P.C.B. as shown below.

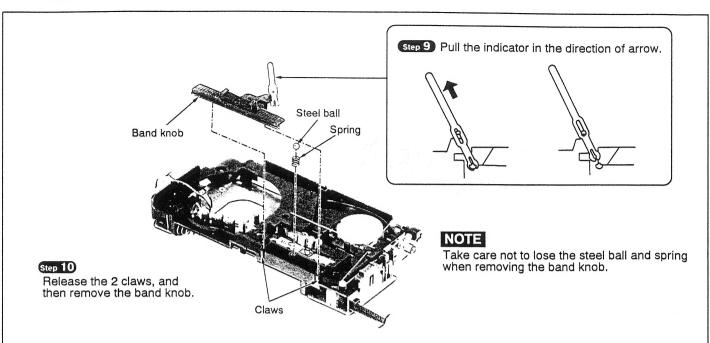


Connect the DC power supply to battery terminals.



When removing the chassis, spread the front cabinet ass'y in the direction of arrow so that the front cabinet ass'y is not hooked by claws.





Removal for speaker

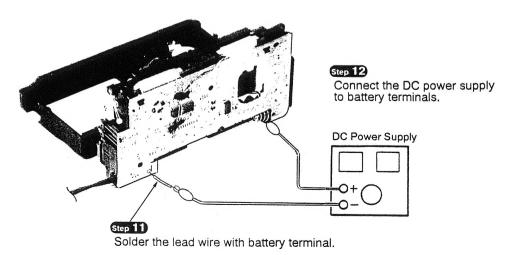
• Remove the 3 screws, and then remove the brackets.

Brackets

Speaker [RASZB11001]

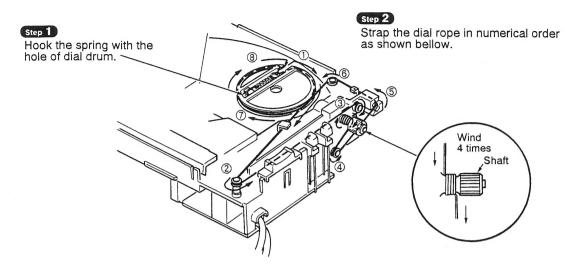
(XTN26+6)

· Check and adjust the P.C.B. as shown bellow.

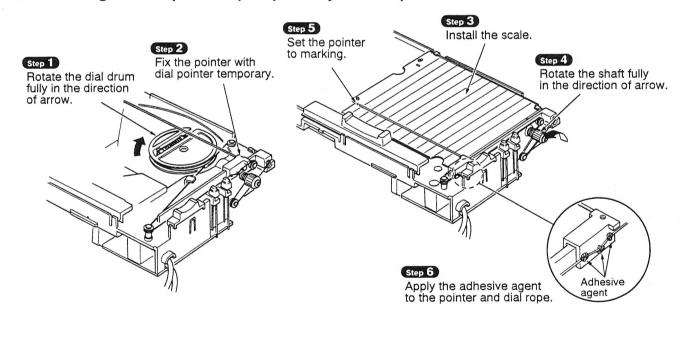


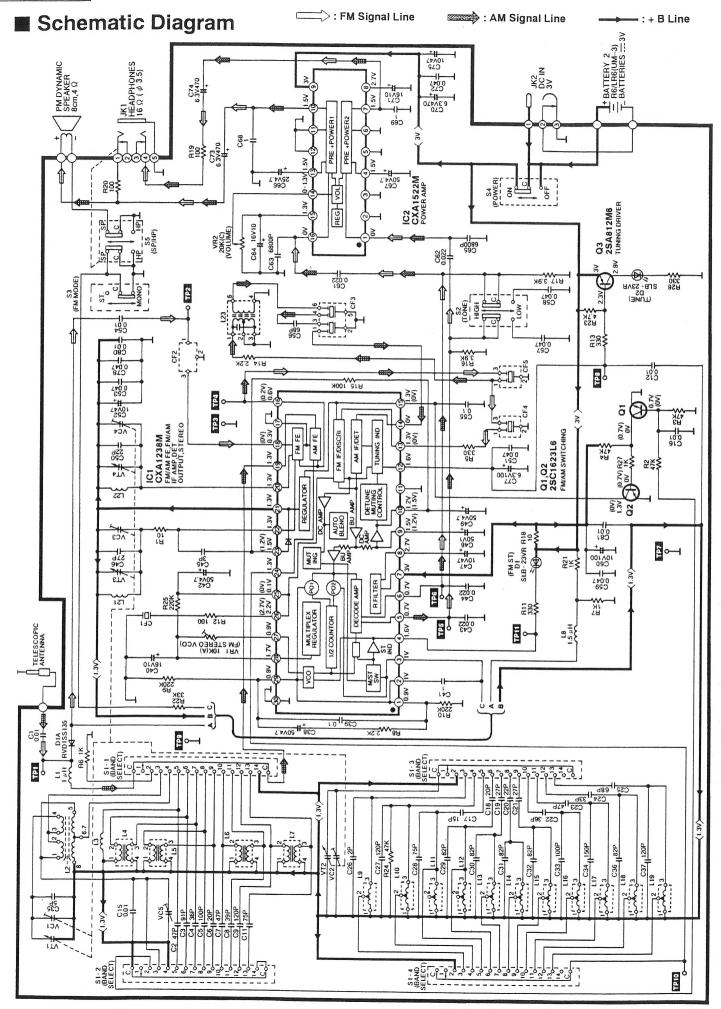
Replacement for dial rope

Strapping for dial rope

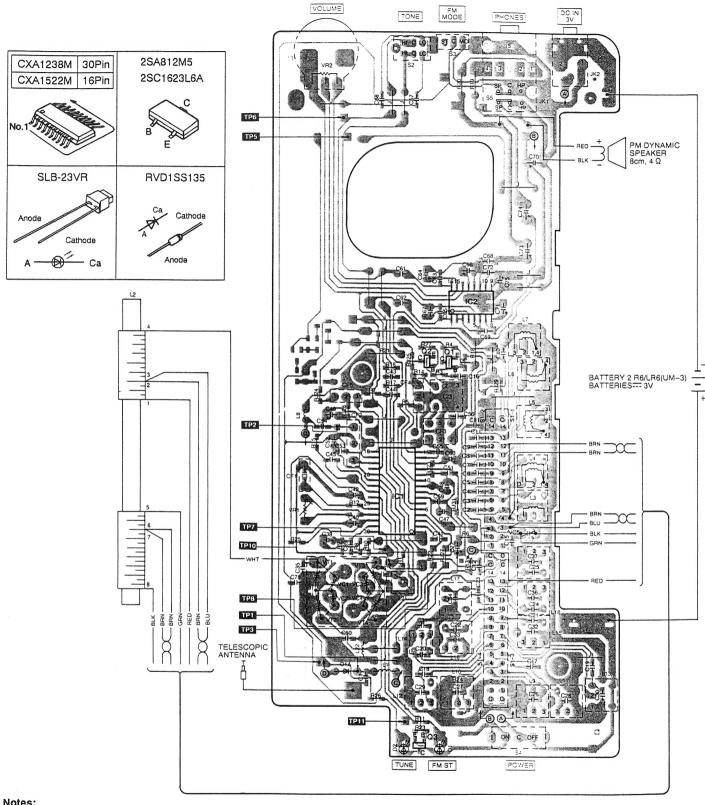


■ Installing for the pointer ("0" point ajustment)





■ Printed Circuit Board and Wiring Connection Diagram



Notes:

• S1-1~S1-4 : Band select switch.

(1...No used, 2...FM, 3...MW, 4...LW, 5...SW9, 6...SW8, 7...SW7, 8...SW6, 9...SW5, 10...SW4, 11...SW3, 12...SW2, 13...SW1, 14...No used)

- S2 : Tone select switch.
- S3 : FM mode select switch.
- S4 : Power switch.
- S5 : Speaker/phones select switch. • VR1
- : FM stereo adjustment VR. VR2 : Volume control VR.

Battery current:

Vol. min...14 mA (FM/AM) Vol. max...140 mA (FM/AM) Measurement instruction

AM (MW/LW/SW): 74 dB/m, 30% Mod. FM: 60 dB, 30% Mod.

- DC voltage measurements are taken with electronics voltmeter. The negative terminal of the battery provides negative meter connection point.
-) AM (MW/LW/SW) No mark FM • This schematic diagram and printed circuit board diagram may be modified at any time with the development of new technology.

■ Measurements and Adjustments

ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

- Set power source voltage to 3 V DC.
- Set operation switch to ON.
- Set band select switch to FM, LW, MW or SW1~9.
- Set volume control to maximum.
- Output of signal generator should be no higher than necessary to obtain an output reading.

• FM ALIGNMENT

The parts other than the ones listed below are aligned at the factory before they are supplied. Therefore, alignment of those parts is unnecessary when used for replacement.

	SIGNAL GENERA SWEEP GENER CONNECTIONS		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER or	ADJUSTMENT (Refer to Fig.1 and Fig.2)	REMARKS
			FN	OSCILLOSCOPE) M-RF ALIGNMENT	J ,	
(1)	Connect to test point TP2 through FM dummy antenna. Negative side to test point TP3.	87.0MHz	Tuning capacitor fully closed.	Phones Jack (16 Ω) Fabricate the plug as shown in Fig.3 and then connect the lead wires of the plug to the measuring instrument.	L21 (FM OSC Coil)	Adjust for maximum output.
(2)	"	109.0MHz	Tuning capacitor fully open.	"	VC3 (FM OSC Trimmer)	"
(3)	"	90.0 MHz	Tune to signal	"	L22 (FM ANT Coil)	"
(4)	"	106.0 MHz	″	"	VC4 (FM ANT Trimmer)	Adjust for maximum output. Repeat steps (1) ~ (4).
			FM S	TEREO ALIGNMENT		
(5)	"	90.0 MHz (90 dB, 0 % Mod.)	"	Connect to test point TP10 . Negative side to test point TP7 .	VR1	Set the volume control to minimum. Adjust VR1 for 76.0 kHz ± 50 Hz reading on frequency counter.

AM ALIGNMENT

	SIGNAL GENERA SWEEP GENER CONNECTIONS		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER or	ADJUSTMENT (Refer to Fig. 1	REMARKS
	CONNECTIONS	PHEQUENCY		OSCILLOSCOPE) M-IF ALIGNMENT	and Fig.2)	
			Ai			
(6)	Connect to test point TP10 . Negative side to test point TP7 .	460 kHz	Point of non- interference. (on/about 600kHz)	Phones Jack (16 Ω) Fabricate the plug as shown in Fig.3 and then connect the lead wires of the plug to the measuring instrument.	L23 (AM IFT)	Adjust for maximum output.
			MV	V-RF ALIGNMENT		
(7)	Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	515 kHz	Tuning capacitor fully closed.	"	L9 (MW OSC Coil)	"
(8)	"	1650 kHz	Tuning capacitor fully open.	"	VC2 (MW OSC Trimmer)	"
(9)	"	600 kHz	Tune to signal	"	(*1) L2 (MW ANT Coil)	Adjust for maximum output. Adjust L2 by moving coil along the ferrite core.
(10)	"	1400 kHz	″	"	VC1 (MW ANT Trimmer)	Adjust for maximum output. Repeat steps (7) ~ (10).
	(*1) Fix antenna coil with w	ax after complet	ing alignment.	,		
			LW	/-RF ALIGNMENT		
(11)	"	140 kHz	Tuning capacitor fully closed.	"	L10 (LW OSC Coil)	Adjust for maximum output.
(12)	"	170 kHz	Tune to signal	"	(*2) L2 (LW ANT Coil)	Adjust for maximum output. Adjust L2 by moving coil along the ferrite core.
(13)	"	270 kHz	"	"	VC5 (LW ANT Trimmer)	Adjust for maximum output. Repeat steps (11) ~ (13).
L	(*2) Fix antenna coil with w	ax after complet	ing alignment.			

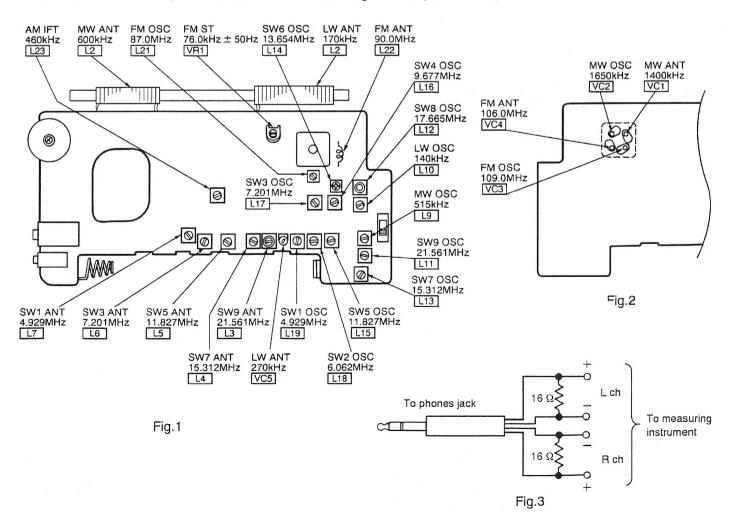
NOTE:

Before SW-RF alignment, be sure to prepare the following:

- 1. Set the output frequency of signal generator to 1000 kHz.
- 2. Turn the set to MW-band.
- 3. Adjust the tuning capacitor so that it receives 1000 kHz of output frequency and its output becomes maximum.
- 4. Fix tuning capacitor as this position, and make alignment of SW1 ~ SW9 on the following table.

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR		INDICATOR (ELECTRONIC	ADJUSTMENT (Refer to Fig.1	REMARKS	
	3. 11.0	CONNECTIONS	FREQUENCY	VOLTMETER or OSCILLOSCOPE)	and Fig.2)	TIEIWI WITO	
			SV	V-RF ALIGNMENT			
(14)	SW1	Connect to test point TP1 through ceramic capacitor (0.001 μ F). Negative side to test point TP3	4.929 MHz	Phones Jack (16 Ω) (Fabricate the plug as shown in Fig.3 and then connect the lead wires of the plug to the measuring instrument.	L7 (SW1 ANT Coil) L19 (SW1 OSC Coil)	Adjust for maximum output.	
(15)	SW2	"	6.062 MHz	"	L18 (SW2 OSC Coil)	"	
(16)	SW3	"	7.201 MHz	"	L6 (SW3 ANT Coil) L17 (SW3 OSC Coil)	"	
(17)	SW4	"	9.677 MHz	"	L16 (SW4 OSC Coil)	"	
(18)	SW5	"	11.827 MHz	"	L5 (SW5 ANT Coil) L15 (SW5 OSC Coil)	"	
(19)	SW6	"	13.654 MHz	"	L14 (SW6 OSC Coil)	"	
(20)	SW7	"	15.312 MHz	"	L4 (SW7 ANT Coil) L13 (SW7 OSC CIL)	"	
(21)	SW8	"	17.665 MHz	//	L12 (SW8 OSC Coil)	"	
(22)	SW9	"	21.561 MHz	"	L3 (SW9 ANT Coil) L11 (SW9 OSC Coil)	Adjust for maximum output. Repeat steps (14) ~ (22).	

• ALIGNMENT POINTS (Please refer to Printed Circuit Board Diagram for test point locations.)



■ Replacement Parts List

Notes: *Important safetty notice:

Components identified by \(\triangle \) mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

*The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)

Parts without these indications can be used for all areas.

* M Indicates in Remarks columns parts that are supplied by MESA.

*<VRD>: indicates parts that are supplied by Video Recorder Division.

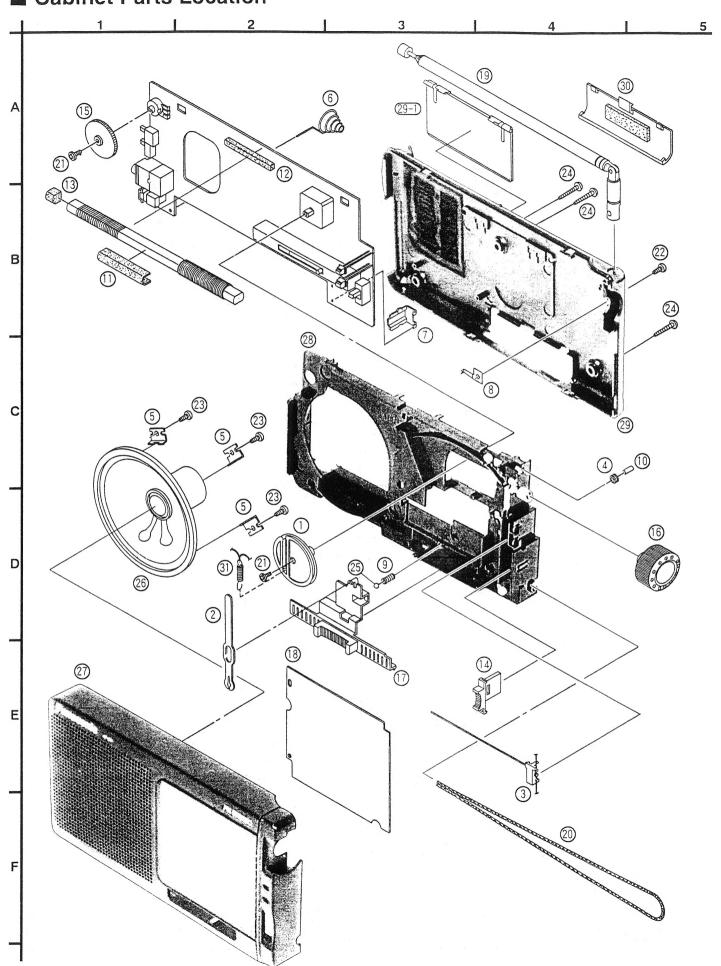
*The "(SF)" mark denotes the standard part.

Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
				L17	RL0ZB11004	COIL	
		INTEGRATED CIRCUIT (S)		L18	RL0ZB11005	COIL	
		1 '		L19	RL0ZB11011	COIL	
IC1	CXA1238M	I. C, FM/AM FE, FM/AM IF AMP.		L21	RL0ZB11007	COIL	
IC2	CXA1522M	I. C, POWER AMP		L22	RL0ZB11013	COIL	
				L23	RL IZB11001	COIL	
		TRANSISTOR(S)					
						FILTER(S)	
Q1	2SC1623L6A	TRANSISTOR					
Q2	2SC1623L6A	TRANSISTOR		CF1	RLFZB11002	CERAMIC FILTER	
Q3	2SA812M5	TRANSISTOR		CF2	RCRZB11001	CERAMIC FILTER	
				CF3	RLFZB11001	CERAMIC FILTER	
		DIODE(S)		CF4	RLFZB11003	CERAMIC FILTER	
				CF5	RLFZB11003	CERAMIC FILTER	
D1	SLB-23VR	LED		1			
D1A	RVD1SS135	DIODE		1		SWITCH(ES)	
)2	SLB-23VR	LED		1			
				S1	RSSZB11004	SW, BAND SELECT	
		VARIABLE RESISTOR(S)	1	S2	RSSZB11002	SW, TONE	
				S3	RSSZB11003	SW, FM MODE	
/R1	RRNZB1 1001	VR, VCO		S4	RSSZB11001	SW, POWER	
/R2	RRVZB1 1001	VR, VOLUME		H	1202211001	ion, rough	
				1		JACK(S)	
		VARIABLE CAPACITOR(S)		ऻ		ONOR (D)	
		(4)		JK1	RJJZB11001	HEADPHONES (S5)	
/C1-4	RCVZB11001	VARIABLE CAPACITOR		JK2	RJJZB11001	DC IN	
/C5	RCVCTZ3120	VARIABLE CAPACITOR		10102	1002011002	DO IN	
				┨┝───			
		COIL (S)					
		0012 (0)		-			
1	RLQZP1ROM-Y	COIL		l			
2	RLVZB11001	COIL	,				
3	RLAZB11001	COIL		-			
4	RLAZB11005	COIL					
5	RLAZB11003	COIL		-			
6	RLAZB11001	COIL		 			
7	RLAZB1 1004	COIL			,		
8	RLQZB11001						
9	RL0ZB11001	COIL					*****
	RL0ZB11001 RL0ZB11010	COIL					
	RL0ZB11012	COIL				, ,	
		COIL					
		COIL					
		COIL					
16	RL0ZB11003	COIL					

Notes : * Capacity values are in microfarads (uF) unless specified otherwise, P=Pico-farads(pF) F=Farads(F)
* Resistance values are in ohms, unless specified otherwise, 1K=1,000(OHM) , 1M=1,000k(OHM)

Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks	Ref. No.	Part No.	Values & Remarks
			C7	ECUV1H470JCN	50V 47P	C59	ECUV1E473ZFN	25V 0. 047U
		RESISTOR(S)	C8	ECUV1H390JCN	50V 39P	C60	ECEA1AU101	10V 100U
			C9	ECUV1H121JCN	50V 120P	C61	ECUV1E223KBN	25V 0. 022U
R1	ERJ6GEYJ100	1/10W 10	C11	RCUZB11002	50 V 7 5P	C62	ECUV1E223KBN	25V 0. 022U
R2	ERJ6GEYJ473V	1/10W 47K	C12	ECUV1E103MBN	25V 0.01U	C63	ECUV1H682KBN	50V 6800P
R3	ERJ6GEYJ473V	1/10W 47K	C15	ECUV1E103MBN	25V 0.01U	C64	ECEA1CKA100B	16V 10U
R4	ERJ6GEYJ473V	1/10W 47K	C16	ECUV1E103MBN	25V 0.01U	C65	ECUV1H682KBN	50V 6800P
R5	ERJ6GEYJ331V	1/10W 330	C17	ECUV1H150JCN	50V 15P	C66	ECEA1EKA4R7	25V 4. 7U
R6	ERJ6GEYJ102V	1/10W 1K	C18	ECUV1H200JCV	50V 20P	C67	ECEA1HU4R7	50V 4. 7U
R7	ERJ6GEYJ102V	1/10W 1K	C19	ECUV1H270JCN	50V 27P	C68	ECUV1C105ZFN	16V 1U
R8	ERJ6GEYJ222V	1/10W 2.2K	C20	ECUV1H22OJCN	50V 22P	C69	ECUV1C105ZFN	16V 1U
R9	ERJ6GEYJ224V	1/10W 220K	C21	ECUV1H270JCN	50V 27P	C70	ECEAOJU471	6. 3V 470U
R10	ERJ6GEYJ224V	1/10W 220K	C22	RCUZB11001	50V 36P	C71	ECEA1CU100	16V 10U
R11	ERJ6GEYJ331V	1/10W 330	C23	ECUV1H470JCN	50V 47P	C72	ECUV1E473ZFN	25V 0. 047U
R12	ERJ6GEYJ101V	1/10W 100	C24	ECUV1H330JCN	50V 33P	C73	ЕСЕАОЛИ471	6. 3V 470U
R13	ERJ6GEYJ331V	1/10W 330	C25	ECUV1H680JCN	50V 68P	C74	ЕСЕАОЈИ471	6. 3V 470U
R14	ERJ6GEYJ222V	1/10W 2. 2K	C26	ECUV1H020CCN	50V 2P	C75	ECEA1AU470	10V 47U
R15	ERJ6GEYJ104V	1/10W 100K	C27	ECUV1H121JCN	50V 120P	C77	ECEAOJKA101	6. 3V 100U
R16	ERJ6GEYJ392V	1/10W 3.9K	C28	RCUZB11002	50V 75P	C78	ECUV1E473ZFN	25V 0.047U
R17	ERJ6GEYJ392V	1/10W 3.9K	C29	ECUV1H820JCN	50V 82P	C80	ECUV1E103MBN	25V 0. 01U
R18	ERDS2TJ100	1/4W 10	C30	ECUV1H820JCN	50V 82P	C81	ECUV1E103MBN	25V 0. 01U
R19	ERDS2TJ101	1/4W 100	C31	ECUV1H820JCN	50V 82P			
R20	ERDS2TJ101	1/4W 100	C32	ECUV1H820JCN	50V 82P			
R21	ERDS2TJ102	1/4W 1K	C33	ECUV1H101JCN	50V 100P			
R22	ERJ6GEYJ333V	1/10W 33K	C34	ECUV1H151JCN	50V 150P			
R23	ERJ6GEYJ472V	1/10W 4.7K	C35	ECUV1H050CCN	50V 5P			
R24	ERJ6GEYJ473V	1/10W 47K	C36	ECUV1H820JCN	50V 82P			
R25	ERJ6GEYJ224V	1/10W 222K	C37	ECUV1H121JCN	50V 120P			
R26	ERJ6GEYJ331V	1/10W 330	C38	ECEA1HU4R7	50V 4. 7U			
R27	ERJ6GEYJ102V	1/10W 1K	C39	ECUV1E104ZFN	25V 0. 1U			· ·
			C40	ECEA1CU100	16V 10U			
		CHIP JUMPER (S)	C41	ECUV1C105ZFN	16V 1U			
			C42	ECEA1HU4R7	50V 4. 7U			
RJ23	ERJ6GEYOROOV	1/10₩ 0	C43	ECUV1E223KBN	25V 0. 022U			
RJ24	ERJ6GEYOROOV	1/10W 0	C44	ECUV1E223KBN	25V 0. 022U			,,
RJ25	ERJ6GEYOROOV	1/10W 0	C45	ECUV1H030CCN	50V 3P			
RJ26	ERJ6GEY0R00V	1/10 W 0	C46	ECUV1H270JCN	50V 27P			
RJ27	RRD18XK000-E	1/10 W 0	C47	ECEA1AU470	10V 47U	1		24 - 124
RJ29	ERJ6GEYOROOV	1/10 W 0	C48	ECEA1HU010	50V 1U			
RJ31	ERJ6GEY0R00V	1/10W 0	C49	ECEA1HU4R7	50V 4. 7U			
			C50	ECUV1H220JCN	50V 22P			
		CAPACITOR(S)	C51	ECUV1E473ZFN	25V 0. 047U			
			C52	ECEA1AU470	10V 47U	1		
C1	ECUV1E103MBN	25V 0. 01U		ECUV1E473ZFN	25V 0. 047U			
2	ECUV1H470JCN	50V 47P	C54	ECUV1E103MBN	25V 0.01U			
:3	RCUZB11003	50V 91P		ECUV1E104ZFN	25V 0. 1U	1		
:4	RCUZB11001	50V 36P	l	ECUV1H680JCN	50V 68P			
25	ECUV1H101JCN	50V 100P	l	ECUV1E473KBN	25V 0. 047U			
6	ECUV1H200JCV	50V 20P		ECUV1E473KBN	25V 0. 047U			<u></u>

■ Cabinet Parts Location



Ref. No.	Part No.	Part Name & Description	Remarks	Ref. No.	Part No.	Part Name & Description	Remarks
				25	RDBZB11-001	STEEL BALL	
		CABINET PARTS		26	RASZB11001	SPEAKER	
				27	RFKGFB11E-K	FRONT CABINET ASS' Y	
1	RDDZB11-001	DIAL DRUM		28	RFKJFB11-K	DIAL	
2	RGKZB11-001	DIAL INDICATOR		29	RFKHFB11E-K	REAR CABINET ASS' Y	(E)
3	RGJZB11-001	POINTER ASS' Y		29	RFKHFB11PP-K	REAR CABINET ASS' Y	(PP)
4	RDPZB11-001	ROLLER		29		REAR CABINET ASS' Y	(GC, GN)
5	RMAZB11-001	FIXER		29-1	RFKNFB11-K	STAND	
6	RJCZB11-001	BATT. TERMINAL (-)		30	RFKMFB11-K	BATTERY COVER	
7	RJCZB11-002	BATT. TERMINAL (+)		31	RFKNFB11-KA	DIAL CORD ASS' Y	
8	RJHZB11-001	ANT. TERMINAL					
9	RMBZB11-001	SPRING				PACKING MATERIALS	
10	RMSZB11-002	SHAFT					
11	RMXZB11-001	SPACER(1)		P1	RPK0705	GIFT BOX	(PP)
12	RMXZB11-002	SPACER(2)		P1	RPK0706	GIFT BOX	(E, GC, GN)
13	RMXZB11-004	SPACER(3)		P2	RPN0962	PAD	
14	RGVZB11-001	KNOB, POWER		P3	RPH0170	SHEET	
15	RGXZB11-001	KNOB, VOLUME					
16	RGWZB11-001	KNOB, TUNING				ACCESSORIES	
17	RGVZB11-002	KNOB, BAND					
18	RKDZB11-002	DIAL SCALE	(PP, E)	A1	RQT3130-E	INST. MANUAL	(E)
18	RKDZB11-003	DIAL SCALE	(GC, GN)	A1	RQT3131-G	INST. MANUAL	(GC, GN)
19	XEAZB11-001	TELESCOPIC ANTENNA		A1	RQT3129-P	INST. MANUAL	(P)
20	RFCZB11-001	STRAP					
21	XQN17+C4	SCREW					
22	XSN26+5FZ	SCREW					
23	XTN26+6	SCREW					
24	RFKNFB11NA	SCREW					

Packaging

